Appendix E- Comments and Responses- Lakewood Southeast Project

Commenter ID

 Mike Kelnhofer 	25. Mark poradek	49. Judith Savard
2. Jerry Knuth	26. DNR	50. Debra Brandt
3. Robert Lepkowski	27. ELPC	51. KC
4. Kurt Schmidt	28. Jane Severt	52. Patricia Shifferd
5. Michael Schug	29. Ronald Richards	53. Gerald Lott
6. Phil Valitchka	30. Neil Paulson	54. Wesley Powers
7. Patty Bauman	31. Patricia Nadreau	55. John/Martha
8. Michael Joyce	32. Barbra Helser	Stoltenberg
9. Paul Mongin	33. Thomas Hogan	56. Stephen Pieckermann
10. Jim Wisneski	34. Joannie Voeks	57. Anon Anon
11. Connor Van Doren	35. Thomas Duffy	58. Betty Van Leuven
12. Uhlenbrauk	36. Susan Michette	59. Le Hunt
13. Ronald Mayer	37. Claire Rintelmann	60. Jan Saecker
14. Sherry Pether	38. Allen Sheldon	61. Kristen Zehner
15. Kurt Butler	39. Bill Wall	62. Mary Plummer
16. Robert Smith	40. Barbra Drake	63. Robert Verrette
17. David Bartz	41. Kathy Trochlell	64. Carol Enseki
18. Roger Kugel	42. Brian Pierce	65. Nancy Moore
19. Joe Liebman	43. Lori Hein	66. Mark M Giese
20. Bachman	44. Jeannie Voeks	67. MaryJo Malo
21. Reginald Robinette	45. Daniel Barth	68. Carol Howard
22. Dick Artley	46. Judy Olson	69. Matthew De Mars
23. Tom Jacobs	47. Janice Burgi	70. Mary Smith-Johnson
24. Gary Zimmer	48. Jennifer DeNetz	

A. Comments that came in outside the comment period

ID	Com	Comment	Forest Service Answer
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2		What happens when you "decommission" a roadway? I	Decommissioning is to render
		noticed that there would be 3.9 miles of road closed.	a road inaccessible to all
		Was any of this 3.9 miles reviewed in the recent or past	motorized traffic. The
		"Request for MVUM Review"?	MVUM review team works
			closely with the districts to
8	2	I am not at all happy with all the roads you have	incorporate any information
		closed to motor vehicles and 4 wheelers for	or changes. The 3.9 miles of
		handicapped people. Open during hunting season.	road that was designated for
		and the state of t	closure during the Lakewood
29	4	Do not closure any more roads.	Southeast project are roads
		Do not crosure any more roads.	that are needed for long-term
13	1	Locked gates cause access problems for fire control.	management but need to be

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17	3	Support road closures.	closed for resource protection. This FEIS works toward
26	12	Support low road density.	reducing road density.
8	1	I like to see plans to log and thin trees to improve	Thank you for your comment
29	1	the habitat for wildlife and to use a renewable resource.	
10	1	How does this effect ATV routes?	There should be no affect to ATV routes because specific design features were developed to reduce the likelihood of conflict between users and logging activities. Hauling will be restricted during higher use periods, primarily weekends (Friday noon to midnight Sunday). Logging debris will be removed from the edge of the route and sight distance requirements will be maintained through decking logs on the outside of corners.
11	1	Comments on roads outside of LSE	This is outside the scope of the project.
12	1	Will you burn during snowmobile season?	The only possible conflict for snowmobile trails with burning would be on the units that specify top wood to be skidded to the landing. If the piles of top wood are not removed as biomass chips they would then be burned, most likely in the winter. If we burned, the piles in the winter there should be minimal, if any effect on the trail use. We would not burn on weekends.
14	1	Support project	Thank you for your comment.
17 28	1 1		
24	5, 6	Support restoring pine barrens (should increase acres)	
26	10	and maintaining openings.	
26	1, 3, 5, 9	Support aspen age class goals, conversion to long live species along streams, reduction of stocking in pine	
14	2	stands, and oak management. "The amount of aspen converted to pine under either	See the FEIS, 3.3.2 and 3.6.2
17		The amount of aspen converted to pine under either	500 the 1 Lib, 5.5.2 and 5.0.2

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	#	alternative is a good thing, and should not be of concern to ruffed grouse hunters There are so many poplar stands (of varying ages, but particularly young ones) around here And that's not to mention all the R.G. management areas. We need more diversity in our forest. Besides, grouse populations here on beginning the downhill slide in their cycle here"	on aspen. See Chapter 1, Needs, for aspen composition and age classes in the area and on the forest currently.
17	2	Increase aspen clear-cut regeneration for habitat. Wildlife depending on young forest is in decline.	Alternative 3 was created to respond to concerns about aspen. This issue is addressed in Section 3.6.2 of the FEIS.
18	1	What is the status of FR 2867?	This is outside the scope. Road is closed for resource protection.
20	1, 2	What is the purpose of the constructed road along Waupee Creek? It follows closer than your set parameters in your plan for the 2.5 miles of proposed road construction. He is concerned about the creek.	The road would provide timber access. The RMZ at the closest point to the proposed road is 100'. During layout, we will try to avoid locating the roadway inside the RMZ; this may not be possible with the rock outcrop located to the south of the proposed location. The forest plan guideline (p. 2-38) states "Avoid stream and wetland crossings, riparian areas, and frost pockets (whenever possible) when constructing or relocating roads."
20	3	Are there plans for a bridge across Waupee to connect with the road off County W from the north?	There are no plans to build a bridge across the Waupee Creek at this time.
20	4	I would have a concern about the 80 acres that are on the southeast corner of Bachmann Road and Riverview Rd.	Harvests would be a thin and shelterwood harvests.
20	6а	Project Area 69-35 and 76-13 and 74-30, how much is going to be clear cut?	The treatment types and acreages are listed in the treatment tables in Appendix A of the FEIS.
20	6b	Clear cuts will benefit wildlife and especially grouse, but I would like to have some trees for turkey roosting.	The CNNF agrees that aspen management will provide valuable early successional habitat that will benefit grouse and many other wildlife species. Wild turkey roosting habitat is typically

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	#		described as a continuous
			stand of timber that is ideally comprised of mature, open- crowned trees with large
			parallel branches that is
			located within one-half mile of a food source. Currently
			roosting habitat within the project area is mature oak,
			white, and red pine stands and
			to a lesser degree the scattered beech and cherry trees.
			Implementation of this project will harvest some of these
			species but each action alternative will leave roosting
			habitat scattered across the
22	1	Drop the 2.5 miles of road construction or amend your	project area. Alternative 4 was created to
		plan. Develop an alternative without logging or road construction.	address your concerns.
22	2	I have never seen this magnitude of logging.	This project is within the scope and scale of other past
			and present vegetation
			management projects. See http://www.fs.usda.gov/projects/
22	3	"Log landings and skid trails provide a source for	cnnf/landmanagement/projects See FEIS, Section 3.8.2. If
		sediment that might enter streams when it rainsTimber harvest collapses some of the subsurface pipes,	construction of a landing or back in spur is required and
		increasing local pore water pressure and the chance of	mineral soil is exposed, then
		landslides." [Sidle, 1986]	potential for soil erosion remains very low because
			level, well-drained upland areas are generally designated
			and natural ground cover
			would be re-established within one or two growing
			seasons. The Sidle Study is not applicable to the CNNF
			climate, terrain, vegetation,
			soils, or harvest methods. CNNF soils do not have
			subsurface pipes or pipe-flow
			and the terrain is not susceptible to landslide.
22	4	"Some scientists' research shows that timber harvest causes resource damage to occur Timber harvest	Concerns about nutrient depletion have been addressed
<u> </u>	İ	causes resource damage to occur Tillioti haivest	depiction have been addressed

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		removes dead and dying trees. When left on-site these trees decompose and create organic material in the soil. How will this organic material be replaced?"	in the Soil Resources Section 3.8.2 of the FEIS and accompanying analysis.
22	5	"Areas with the timber harvested are more susceptible to the outbreak of pests and regulate insect activity in surrounding homogenized forests." [Schowalter and Means, 1989; Franklin, Perry, Schowalter, Harmon, McKee and Spies, 1989]. "Will this be true in this project area?"	No. The District averages about 3,500 acres of timber harvests annually. Over the past 20 years, we have not had any notable problems with pest outbreaks in our harvest areas. The documents you've cited are well known and pertain to western forests where bark beetle outbreaks are much more of a concern.
22	6	"Congress has found that tourists and forest visitors avoid areas where timber harvest has occurred. Statistics show that the economic stability of small communities near the forest is harmed. Congressional testimony shows that tourist dollars far exceed the revenue created by timber harvest activities. Will this be the case here?"	The CNNF monitoring shows that the highest recreational use is hunting (24% of the visits main activity was hunting). The top species hunted are dependent on openings and edges, which is complementary to our actions. Recreation and timber are both beneficial income for the local economy. The FS is required by the Multiple Use Sustained Yield Act to provide for both.
22	7, 8	Logging: "Adversely affects hydrologic processes by reducing canopy interception and evapotranspiration".	See FEIS, Section 3.9.2, peak flow.
22	7	Logging: "Decreases the hydraulic conductivity and increases bulk density in forest soils after harvest".	See FEIS, Section 3.8.2, soil compaction and rutting
22	8	Logging: "Increases water temperature by altering available sunlight, conductivity by changing the amount of organic matter that collects in vernal ponds or pH if the logging process deposits foreign residues to the area. It also damages aquatic habitats through siltation and reduction in stream complexity."	See comment and answer #27-14.
22	9	Logging: "Removes mature and maturing trees which conserve essential elements, whereas the area containing new very young planted trees following logging are susceptible to erosion and essential element loss."	See FEIS, Section 3.8.2, erosion, and displacement, and soil productivity. The removal of nutrients in merchantable tree boles or whole trees (bole plus crown) from one treatment area would not affect total site nutrients on adjacent areas.

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22	10a	Logging: "Removes tree parts that would have created and maintained diversity in forest communities".	The forest plan (Chapter 2) includes standards and guidelines to maintain biodiversity.
22	10b	Logging "Removal of dead and dying trees eliminates habitat required by bird species that feed on insects that attack living trees, with the result that outbreaks of pests may increase in size or frequency". [Torgersen et al. 1990]	To address this, the forest plan (Chapter 2) includes standards and guidelines to maintain biodiversity.
23	1	Do not cut 65 year-old red pine.	This was a stand specific concern and was addressed by substituting the stand of concern with another stand.
23	2	Cut old falling down aspen.	Alternative 3 was created to
24	2, 3	Convert less aspen, because even with the clearcuts, where would be less aspen total. Aspen is declining as a species.	respond to concerns about over mature and declining aspen.
28	2	Aspen is declining, so we are concerned about the aspen conversion in MA 4B.	
23	3	Burning makes brush grow back thicker.	It may. However, this depends on the burn prescription, timing of the burn, fuel types, and weather conditions.
24	4	"Recreational benefits of early successional wildlife species for consumptive and non-consumptive purposes need to be considered during the project evaluation."	We considered recreation in early successional habitat in creating Alternative 3.
26	2	The conversion of nearly 1,800 acres of aspen type in MA4B, while aligned with the forest plan direction, will have negative impact on early successional wildlife species such as American woodcock and golden-winged warbler.	The loss of early successional habitat and its impacts are discussed in Section 3.6.2 of the FEIS.
26	6, 8	On increasing the pine component, species of conservation need deciduous trees and shrubs. Hold white pine stands longer for a number of birds.	In proposed regeneration harvest red and white pine stands, a shrub layer of scrub oak and red maple is very abundant. Typically, when pine plantations are established in this part of the district, management includes at least one release cut to prevent this shrub layer from overtopping the planted seedlings. In many situations, there needs to be a second release cut before the seedlings are free to grow.

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	#		Following the release(s), the shrub layer normally sprouts again. Without the use of chemicals or prescribed fire, it would be very difficult to keep the shrub layer down. This resilient shrub layer in those pine stands will provide needed habitat for many wildlife species.
26	7	Younger red pines have ladder fuel and have high hazard potential. Work with the DNR and local land owners on fire.	We have worked together in the past to protect communities from fire. We are currently working with the WDNR on this project and have spent time with them on site in the analysis area discussing areas of concern and we will continue to work with them on this project. The CNNF has also sent the landowners in the Airport lane area with a letter on 2011. The CNNF plans to continue working with the landowners in the future.
26	13	Consider high stem densities adjacent to barrens.	The CNNF will attempt to incorporate this into the design of all action alternatives when dealing with management of wildlife openings, American woodcock, and goldenwinged warbler.
27	3a	"That assessment should include, at a minimum, a complete accounting of how many acres of aspen, oak, pine, and forest generally, have been logged each year over the past 15 yearsconsider early-successional forests on nearby State-and privately-owned forests within the region. These forests, many of which are actively managed, could already be providing the very habitat this project is intended to create the Forest Service must take a "hard look" at all of the impacts of the proposed logging and road building activities. <i>Methow Valley Citizens Council</i> , 490 U.S. at 350. The Forest Service must consider not only the direct and indirect effects of these proposed timber sales, 40 C.F.R.	See Chapter 3 and the various specialists' reports. The IDT compiled cumulative actions for CNNF and non-federal lands. This information was used to analyze cumulative effects in the FEIS, Chapter 3. Cumulative effects included federal and non-federal actions for each alternative. Private land analysis was completed in the BE, Section 6.0. Impacts from the

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		§ 1508.8(b), but also the cumulative impacts of the proposed timber sales in combination with all "past, present, and reasonably foreseeable future" actions on both public and private landsA cumulative impacts analysis for the Lakewood Southeast project must consider the impacts of all past, present and reasonably foreseeable impacts of timber sales, road building, and related actions from throughout the National Forest, not just from a geographically limited project area. The need for a Forest-wise assessment is especially warranted for this project, which spans across multiple ranger districts on both the Chequamegon and Nicolet sides of the CNNF. As part of the cumulative impacts analysis, the Forest Service should keep in mind the number, volume, and location of timber sales that are being proposed for the Forest. Since the 2003 approval of more than 40,000 acres of timber sales. All of this activity, along with other past, present, and reasonably foreseeable actions, must be fully and fairly considered as "relevant factors" in the Forest Service's cumulative impacts analysis for the Lakewood Southeast project. Before limiting the geographic scope of its cumulative impacts analysis in any way, the Forest Service must look at each of these proposed actions and must expressly state whether (and why) each action is cumulatively related to the Lakewood Southeast project and, therefore, whether that action should be included in a full cumulative impacts analysis. Significantly, the Lakewood Southeast project would add nearly 12,000 acres of new logging to the CNNF, where, as noted above, multiple major timber projects are	proposed road management activities were completed for relevant TES and RFSS in the BE Section 6.0. Documentation and rationale for impact boundaries and scale of effects analysis used can be found in the BE. In the red-shouldered hawk and northern goshawk discussions, a reduction in the long-term effects to these species habitats was made from the proposed treatments. The initial harvest treatments would have made these hardwood stands unsuitable for approximately 50 years. For goshawks, 606 acres and for red-shouldered hawks 1,035 acres of upland hardwood were limited to shelterwood prep cuts that would be similar to a commercial thin cut (FEIS Sections 3.4 and 3.6 and BE, Section 6.1.2.3). While these treatments would likely result in fewer acres of young oak stands over the next fifteen years, they would still move
		already occurring or are proposed to occur in the near future Logging, road building, and development occurring on public and private lands within and adjacent to the CNNF must also be factored into this cumulative impacts analysis"	the stands toward long-term desired conditions while ensuring nesting habitat is maintained in the project area.
27	3b	" Private lands within and adjacent to the Forest are becoming increasingly fragmented due to development and logging Land development and intensive logging on nearby private lands reduce the amount and value of wildlife habitat in those areas, making habitat in the National Forest all the more important for the continued viability of threatened, endangered and Regional Forester's Sensitive Species The impacts of this combined logging on wildlife habitat (particularly for RFSS such as woodland hawks), water resources, recreation, protected areas, and other important forest	For wildlife concerns, see response to #27-12a and b; also see response #27-18b. For effects, see Chapter 3 in the FEIS.

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	#	resources must be fully and carefully considered before	
		the Lakewood Southeast project is finally approved."	
27	6	"By harvesting stands of mature interior forest, these timber sale projects are undoubtedly creating large swaths of early successional habitat. Thus, the goals of increasing early successional forest and early successional wildlife habitat on the CNNF may have already been met. Before proceeding with project activities designed to increase early-successional conditions, the Forest Service should fully assess whether those activities are actually neededwe question the purpose and need for these logging and related activities more generally."	This was done in the early stages of the project analysis. The DEIS Section 1.2.1shows the existing and desired condition for the project area and takes into account the conditions (and past harvests) across the rest of the CNNF. Additionally, other present and future actions across the CNNF were considered (FEIS, Section 3.2.3).
27	6, 7	"Early successional-dependent species are already flourishing on the Forest. This includes those species specifically listed in the Notice as benefiting from the project (e.g., the American woodcock)" [Wis. Wildlife Action Plan]. "Creating additional habitat for these species is not necessary. There is already an abundance of young forest in the western Great Lakes region and a decline in species that rely on mature forest habitats, as the Forest Service has acknowledgedWe encourage the Forest Service to allow more acres of aspen, red oak, and pine to age, and for aspen to naturally convert to northern hardwoods. The proposed 11,820 acres of timber harvests would eliminate key habitat for northern goshawks and red-shouldered hawks" [Jacobs 2002]. "The Wisconsin Department of Natural Resources ("DNR") has recognized that old-age aspen provides viable habitat for breeding birds including woodland hawks" [DNR]. "Population viability analyses for both northern goshawk and red-shouldered hawk strongly discouraged further losses of habitat in order to protect the viability of these sensitive species on the National Forest we are concerned that this project's goal of increasing early successional forest and wildlife habitat is coming at the expense of species that depend on mature, late-successional forests, such as the red-shouldered hawk and northern goshawk. Given that these species are RFSS as well as management indicator species, management decisions should take special heed of their habitat needs. If the Forest Service continues to pursue its goal of increasing early successional forest and habitatfully	The "Species of Greatest Conservation Need in Wisconsin" table is inapt for comparing species population statuses in the state. That table shows species "Relative Abundance" rating based on how the size and extent of all populations in Wisconsin compare with total size and extent of all populations across the rest of the species' range. As a result, in this table a population could have a "high" rating in the state due to its comparison to its low population status throughout the rest of its range (i.e. woodcock and golden-winged warbler). Local management is required for effective conservation of core populations that are important for stabilizing, restoring, and expanding these populations throughout all of their range. Management of early successional habitat is addressed in the FEIS. There is a decline of early successional habitat across the

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	analyze the impacts of any timber harvest and regeneration to ensure that it will not threaten the viability of northern goshawks and red-shouldered hawks in the Chequamegon-Nicolet and elsewhere."	CNNF and Upper Mid-west region and the impacts of the loss of that critical habitat to several species. This included the Golden-winged warbler that is currently being reviewed by the USFWS for inclusion on the Federal list of Threatened and Endangered Species due to their population and habitat declines. Impacts of all proposed harvest treatments to woodland raptors was addressed in the BE, Section 6.1.2.3 - Red-shouldered Hawk and MIS/MIH, Section 3.6 - Goshawks. Jacobs (2002) is an annual report submitted to the CNNF as part of a contractual agreement between the CNNF and Mr. Jacobs. The report describes that year's red-shouldered hawk production on the NNF. However, the referenced report makes no mention of "change of natural forests to industrial forests of aspen regeneration and pine plantations" as the commenter suggests. The WDNR Silviculture and Forest Aesthetics Handbook is a handbook that provides a variety of tools and resources to assist private and industrial foresters to engage in actively managing their forested lands. Chapter 43 is about "Aspen" marking guidelines and on page 12 addresses "Wildlife Attributes" and mentions that mature aspen stands are suitable habitat for goshawks. The CNNF agrees with that statement that "old-age aspen provides viable habitat for

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			breeding birds including woodland hawks." In its Habitat Models for Effects Analysis-Animals RFSS (St. Pierre 2010), the CNNF has described mature aspen as suitable habitat for goshawks. Mature aspen stands are not mentioned as suitable habitat for red-shouldered hawks by the WDNR in this document. Aspen also is not included in St. Pierre's (2010) report describing suitable habitat for red-shouldered hawks.
27 8	8	"Far from being overabundant, large blocks of mature interior hardwood forest are decreasing across the CNNF as a result of logging activities. Rather than focus on eliminating habitat that is ideal for RFSS such as woodland hawks" [NW Howell Final Supplemental EIS, Appendix B], "we recommend that other, less mature stands be considered for timber harvest."	The CNNF disagrees with the commenter's assertion that large blocks of mature interior hardwood are decreasing. In 2011, the CNNF had approximately 125,260 acres of mature northern hardwood interior forest, with the majority of these acres occurring in MA 2. Overall, this represents an increase of approximately 4,400 acres from last year (4% increase) and a 35% increase since 2004 (St. Pierre 2012). This increase was anticipated during the forest plan revision process because many of the hardwood stands were on the cusp of turning 80 years old. As a result, the CNNF is on target to reach 140,000 acres of mature northern hardwood interior forest projected in the forest plan within 20 years (forest plan FEIS, p. 3-102). This is due in part to over the past decade the CNNF has had numerous projects in which the Deciding Official opted to select an alternative that preserved or actually

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			hardwoods (such as the north half of the McCaslin Project). The forest plan greatly restricted the amount of temporary openings (e.g. clearcuts) within large hardwood blocks designated as MA 2B. The majority of the project area is within MA 4A and 4B. The focus of MA 4A is conifer: red-white-jack pine and 4B is for conifer: natural pine oak. Neither MA has the focus of managing for the promotion of mature northern hardwoods interior forests. As a result, that it would be ecologically inappropriate to force a mature hardwoods emphasis on this area.
27	9	" we are concerned that the proposed action hinders, rather than promotes, several of the projects purposes the Forest Service notes that there is a severe shortage of red pine in the 101+ year age class within the CNNF, while there is a surplus in the 61-100 year classThe obvious remedy for this problem is to allow red pines in the 61-100 age class to continue maturing and thereby enter the 101+ age class. Instead, theproject proposes to harvest many of these red pines. And although a selection harvest or thinning of even-aged plantation red pines may be warranted in certain circumstances, many of the older red pine stands in this projectwill be subject to stand-replacing treatments, such as a shelterwood harvest. Such logging activities are contrary to the purpose and need, and should be eliminated from the projectthere is a serious shortage of eastern white pine in the 121+ age class, yet the project proposes logging of white pines in the 61-120 age class"[refer to several stands] "Proposed harvests of mature white pine stands, or mixed stands of mature white pine and other species, should be dropped from this project."	In response to these concerns, Alternative 4 was developed. It includes no regeneration of pine stands greater than 80 years of age and no harvests of any kind in pine stands greater than 100 years old. See FEIS, Section 2.2.4. Also, see FEIS, Section 3.2.2, age class distribution for red and white pine. Need 2E –Red Pine states, "These 69-77 year-old stands comprise a "spike" in the amount of 61- 100 year old stands". See response #27-24.
27	10	"Logging of white and red pine, particularly stand-replacing treatments such as shelterwood cuts or clearcuts, is unwarrantedpine is already underrepresented in the project area and across the CNNF It makes little sense to log existing, mature	The CNNF disagrees with the commenter's assertion that harvest treatments within our white and red pine stands are unnecessary. Concerns about regenerating older pine stands

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	#	stands of white and red pine when those species are already significantly underrepresented. This is especially so given that the agency's acknowledgement that there is a need to increase the number of large conifers within the project area so as to improve habitat for RFSS such as the red-shouldered hawk and goshawk withdraw any proposed shelterwood cuts or clearcuts of white or red pine."	were used in the development of Alternatives 3 and 4. These alternatives reduce or eliminate regeneration harvests in pine stands 80 years or older. However, in all of the action alternatives the vast majority of the harvests taking place in red and white pine stands would be thinnings. These treatments would be completely consistent with identified objective of growing larger pine trees and improving the habitat quality for the raptor species you mentioned. By reducing the density of trees in these stands, the remaining trees would have less competition and more growing space. Thus, growing conditions would be optimized and more rapid diameter growth would result. Also because of the treatments, the representation of red and white pine would not decrease, but, rather, increase. See Section 3.2 of the FEIS. Also, the commenter's assertion is incorrect that the harvest of mature pine is unwarranted due to "the agency's acknowledgement" that there is a need to increase this type of habitat for woodland raptors. The DEIS does state that there is a lack of large conifer (hemlock and white pine) but it is in the context of hardwood stands and not pure white and red pine stands. The CNNF stated that planting white pine or hemlock in the understory of hardwood stands would

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	n		increase species diversity and improve long-term wildlife habitat value (DEIS Section 1.2.1). Stands that are exclusively red and/or white pine are not considered suitable nesting habitat for red-shouldered or goshawks and thus harvest in those stands has no effect. However, incorporating it into the management of our hardwood stands for diversity is an important part of high quality nesting habitat for both species.
27	11a	"– building 2.5 miles of new road and reconstructing 34 miles of road – are inconsistent with the Forest Plan's direction, density limits, and this project's objectives. As the Forest Service acknowledges, "[t]he current road mileage exceeds the density of roads in some areas," and that the "forest plan's direction is to reduce average open and total road densityUnless and until those Forest Plan directives have been met, and the Plan's road density limits fully achieved, the Forest Service should not be authorizing roadbuilding activities that will <i>increase</i> the road density in the project area. We note that this project proposes 36.5 miles of road construction activities, while and in areas with 70% or more canopy closure proposing to decommission less than 30 miles of roads the Lakewood Southeast project represents a step in the wrong direction when it comes to roads. The Forest Service should reconfigure this project so that it avoids the need for any further road construction or reconstruction – at least until the Forest Plan's density limits have been satisfied"	As shown in Table 3.3.2.1, Table 3.3.2.2, and Section 3.3.2 of the FEIS, each action alternative will reduce the total and open road density. The miles of reconstruction are included in the current figures and do not increase either total or open road densities. The proposed construction is the only thing that would increase road densities. This increase is far outnumbered by the miles of decommissioning for each action alternative, over 20 miles of road. Alternative 3 and 4 were created to reduce the amount of construction to address your concerns.
27	11b	"While many impacts from timber sales come from the logging itself, the related road construction activities can also have significant impacts, which must be studied. Road construction, reconstruction and use can have many pervasive and cumulative effects, such as fragmenting habitat, increasing sedimentation in forest streams and other waterways, enhancing the distribution and spread of many already common and often invasive nuisance plants and animals, and	Roads and their relationship to invasive species are addressed in Section 3.7.2 and sedimentation in Section 3.8.2 of the FEIS. See response for #27-03. No road actions are included in Alternative 1. Under the action alternatives, open road densities would be decreased

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	#	contributing to declines of many species sensitive to human disturbance" [Saunders et al 2002]. "The Lakewood Southeast project will involve more than 36 miles of road construction and reconstruction. The impacts of such construction and reconstruction, and the continued use of those roads, must be considered. Because of fragmentation effects, such consideration must focus not only on total road density, but also on the spatial arrangement of the roads in the project area."	thus reducing the extent to which traffic-related effects on RFSS could occur. The physical effects of decommissioning roads or new road construction were considered inconsequential to the effects analysis for RFSS because the roads in either case (low-level roads or temporary roads) are unlikely to present barriers to movement, measurably decrease/increase habitat availability, or any other impact to these species that occupy the project area.
27	12a	"The cumulative impacts requirement is especially important Forest Service's various timber sales will impact species whose viability is in danger We ask the Forest Service to fully and fairly consider the direct, indirect, and cumulative environmental impacts to the following threatened, endangered, and sensitive plant and animal species: Eastern Timber Wolf (Canis lupis) Bald Eagle (Haliaeetus leucocephalus) Canada Lynx (Lynx canadensis) American Marten (Martes americana) Northern Goshawk (Accipiter gentilis) Red-shouldered Hawk (Buteo lineatus) Black-backed Woodpecker (Picoides arcticus) Spruce Grouse (Falcipennis Canadensis) West Virginia White Butterfly (Pieris virginiensis) Mingan"s moonwort (Botrychium minganense) Goblin fern (B. mormo) Blunt-lobed grapefern (B. oneidense) American ginseng (Panax quinquefolius).	All threatened, endangered, and RFSS that have habitat and potential for occurrence in the project area were analyzed, see BE and Sections 3.4 and 3.6 of the FEIS. Direct, indirect, and cumulative effects were discussed for those species with habitat, potential for occurrence, and potential impact by proposed projects. Detailed information on redshouldered hawk is provided in the BE section 6.1.2.3 and for northern goshawk in the FEIS, Section 3.6.2.
27	12b	We stress that the Forest Service must take a particularly close look at the direct, indirect, and cumulative impacts of the Lakewood Southeast project on the northern goshawk and red-shouldered hawk. The project area contains some of the most important habitat for these species on the entire CNNF, not only due to its proximity to the Boulder project area (the subject of a 2007 settlement that focused on goshawk nesting sites and habitat), but also because the project area is at the southern edge of the CNNF. As the Forest Service has previously acknowledged, these areas provide some of the premier red-shouldered hawk habitat on the entire	The focus of the 2007 Boulder Project Settlement was for red-shouldered hawk habitat, not goshawks as identified by this commenter. For expected impacts to red- shouldered hawks see BE Section 6.1.2.3 and for Northern goshawk see— MIS/MIH Section 3.6 by alternative. See FEIS, Section 3.4.3, Red-

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		Forest	shouldered hawks-Methods,
		The NFMA regulations expressly adopted by the 2004	this explains models used for
		Chequamegon-Nicolet National Forest Plan require the	both hawks.
		Forest Service to ensure that the continued viability of	Literature from across North
		RFSS will not be threatened. In order to evaluate these	America indicates that
		viability issues, the Forest Service should obtain for each	goshawk and red-shouldered
		species and population up-to-date information on life	hawk have habitat preferences
		history, population trends within the CNNF and the	that go beyond 1) forest type,
		7 7 7	
		region, and factors limiting population growth or	2) age of the stand, and 3)
		threatening population stability.	canopy cover. The CNNF is
		A review of such information suggests that there are	familiar with this literature
		serious concerns about the viability of northern	and chose the above three
		goshawks, red-shouldered hawks, and other forest	variables because they are
		interior species. Many of those species use older aspen	assumed to represent the
		and birch for nesting and other life history needs,	larger suite of variables
		particularly in older age classes. Several bird species that	(including tree height, stand
		are associated with older forests are declining in the	basal area, amount of large
		region and across the Forest itself. Data gathered by the	woody debris and snags) that
		Natural Resources Research Institute" [Danz et al 2007]	have been shown to be related
		"and the Wisconsin Checklist Project" [Rolley 2007]	to the species' habitat
		"reveal that many key species of birds in the region are	preferences. Different forest
		declining. A recent update of Chequamegon-Nicolet	types are defined by the tree
		monitoring found that 16 bird species had declined while	species diversity within the
		only five increased, noted that "widespread declines	stand. The age of the stand is
		are mainly found in mature forest habitats," and	correlated with the tree
		concluded that it "would be prudent to curb further	height, is expected to be
		reductions in average forest patch sizes and age on the	correlated with the
		landscape". [Danz 2007]	accumulated amount of large
		"To comply with NFMA"s viability requirement, the	woody debris (LWD), and
		Forest Service must fully analyze the issues discussed	snags within the stand.
		above to ensure that the Lakewood Southeast project and	Therefore, older stands have
		other past, present, and reasonably foreseeable logging	more of these elements. It is
		and road-building activities in the Chequamegon-Nicolet	recognized that the
		will not threaten the viability of red-shouldered hawks	relationships between stand
		and northern goshawks. Moreover, the Forest Service	age and these other variables
		must adequately monitor populations of these species,	may not be linear but they are
		which are listed as Management Indicator Species	positive (height: Carmean et
		("MIS") under the 2004 Forest Plan. Prior to approving	al 1989; LWD in 40+ year old
		the project, the Forest Service must adequately account	stands: Gore and Patterson
		for how MIS population trends are being affected by	1986). The outcome of a
		logging in the CNNF, as it is required to do under the	review of the literature
		2004 Forest Plan, in order to ensure that the proposed	resulted in setting an age cut-
		logging and road-building do not compromise the health	off (50 years) by which time
		of the Forest ecosystem.	it is expected that the tree
		In the absence of rigorous population monitoring, the	heights and diameters, and
		Forest Service must base any assessment of population	LWD accumulation have
		viability on a complete and accurate estimation of	exceeded the minimums
		suitable habitat available for these species. Sierra Club v.	suggested in the literature for

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		Marita, 46 F.3d 606, 621 (7th Cir. 1995); Idaho Sporting Congress, Inc. v. Rittenhouse, 305 F.3d 957, 971-73 (9th Cir. 2002). The Forest Service must ensure that it considers all factors that are relevant to the suitability of habitat. For northern goshawk and red-shouldered hawk, for example, relevant factors include: canopy closure, tree height, stand basal area, tree species, open understories, size and amounts of coarse woody debris and standing snags, tip-up mounds, slope, predators, fragmentation, edge, and patch size, and/or proximity to water (for red-shouldered hawk) or human disturbances (for northern goshawk)[McLeod 2000, etc.]. In evaluating factors relevant to the suitability of habitat for these sensitive hawk species, the Forest Service should also consider post-fledgling areas and foraging areas, not just nesting habitat. Such areas are typically larger than the nesting habitat, but are critical to a species" survival" [Boal etal 1994]. "These elements must be factored into the habitat suitability model that the Forest Service is using as the basis of its cumulative impacts and viability analyses.	these species. For monitoring see the BE Section 6.1.2.3 and the FEIS 3.4.3. Suitable habitat, foraging, and fledgling is in the BE, Section 6.1.2.3, and the FEIS Sections 3.4.3 and 3.6.2.
27	12c	Additionally, the Forest Service should calculate and report the total amount of suitable habitat for northern goshawk and red-shouldered hawk that has been lost in each ranger district over the past 5 years, 10 years, and 40 years. In order to understand the long-term trends for these species on the CNNF, it is important to understand the total aggregate loss of suitable (and occupied) habitat that has occurred over these administratively-relevant time frames. If the Forest Service decides to move forward with the Lakewood Southeast project, we strongly recommend that the agency develop an explicit monitoring plan that will evaluate RFSS responses to the timber harvesting that takes place. A monitoring program of this nature would provide valuable data that will assist the Forest Service and other stakeholders in better managing the resources of the CNNF.	The suitable habitat loss analysis has actually already taken place because current habitat conditions account for past management activities and environmental events that have affected those habitats. The current conditions of those habitats were then incorporated into our RFSS habitat effect models that determined the amount of suitable habitat at several spatial scales (St. Pierre 2010). These modeling processes were judged to be reasonable and adequate in challenges at the District Court level (decisions favoring the CNNF's process in these cases began to accumulate in 2009 beginning with the Twentymile project). Analysis of the changes

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	#		from historic habitat conditions leading up to 2004 were described in the forest plan FEIS (cumulative effects to landscape pattern) on pages 3-108 to 3-109. The results of that analysis is that implementation of the 2004 forest plan is expected to lead to larger blocks of hardwood forests. In addition, our modeling of nesting habitat for forest raptors shows an increasing
			trend for habitat also. In 2005, a detailed digital analysis of nesting habitat for raptors began on the CNNF with our GIS based Suitability Habitat Models. Using that data as a base line, we can compare current habitat conditions for trend analysis. Goshawk habitat has increased on the district by
			6,270 acres and on the NNF by 20,060 acres. Redshouldered hawk habitat on the district has decreased by 267 acres and increased on the NNF by 9,423 acres. The decrease in upland hardwood habitat is only 0.1 % of the total available. In addition, it was expected and identified in the forest plan and includes the unexpected loss of habitat
27	13	"In conducting its analysis of possible effects on RFSS, the Forest Service should survey each of the proposed	due to the 2007 Quad County Tornado. See response #27-8 for information on the current condition of mature interior hardwood habitat and its increase on the CNNF (St. Pierre 2012). Analysis of effects to RFSS plants are found in the plant

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	#	timber sale locations for occurrences of goblin fern, Mingan's moonwort, and blunt-lobed grapefern. Potential impacts to the American ginseng must also be closely scrutinized given the adverse effect that deer, a species that thrives in early successional habitats, have on ginseng populations". [Farrington et al 2009].	section of the BE and Section 3.4.8.2 of the FEIS for the ferns. Issues related to deer herbivory are discussed in response #27-17.
27	14a	"As the notice and associated maps indicate, the Lakewood Southeast project area contains important water resources, including lakes and cold water or native trout streams. The Forest Service must fully analyze potential impacts to water quality across the entire project area to ensure that these water resources are not impaired by the proposed logging and road construction activities. Road construction and timber harvesting have the potential to create adverse impacts to aquatic habitats, including increases in water temperatures, loss of terrestrial food (insects and leaves) used by aquatic organisms, and sedimentation caused by stream crossings, heavy equipment, and harvest activities in close proximity to the riparian zone." [Allen 2003, etc]. "The Forest Service's analysis should address each of these aspects of aquatic ecosystem and wetland health, including aquatic organisms such as amphibians and reptiles, for which the Forest Service has identified no indicators to date."	The CNNF has conducted an Aquatic Ecological Classification and Inventory for the streams within the forest boundary. The ecological units, called valley types, are based on stream bank full width, alkalinity, maximum water temperature, and aquatic biota (fish and mussels). Most of the streams within project area are mainly 0-20 feet wide, with moderate alkalinities and range in water temperature from mainly cold (<23°C), cool (>23 to <26°C) (one stream) or warm (>26°C) (three streams) (USFS 2004). By understanding the stream classification within the project area, silviculture prescriptions can focus on activities that would enhance the stream's aquatic habitat. The CNNF focuses management on habitat to protect aquatic organisms. Within the project area, there are 3,297 RMZ acres. The proposed harvest methods promote conversion to long lived species in the riparian areas. Over time conversion to long lived species would provide large woody debris for the aquatic and terrestrial portions of the riparian area, soil and bank stability, diverse and productive sites for aquatic and terrestrial plants and animals. The upland terrestrial component

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			of riparian areas should consist of large long-lived, tall trees appropriate for the site that provide shade, debris, large woody debris, shoreline and bank stability and overhead cover. Maintaining healthy riparian ecological function provides for macroinvertebrate and fish habitat as well as shade to maintain cold or cool water temperatures. Therefore, this analysis focuses on aquatic organism habitat to protect aquatic organisms found through the ecological
27	14b	"Any discussion of impacts to water quality and riparian habitat should also identify the acres of proposed logging and miles of road-building activities within Riparian Management Zones in the project area and should fully and fairly analyze the impacts of those activities."	classification system. See FEIS, Section 3.9.2, RMZ
27	14c	"In other proposed timber sales, the Forest Service has not fully analyzed impacts to water quality from logging and road construction and reconstruction but has instead asserted that impacts to water quality will be negligible because Best Management Practices ("BMPs") will be applied. (See Twentymile Project EIS at 3-142). If the Forest Service takes this position in the Lakewood Southeast EIS, the Forest Service must demonstrate (a) that Wisconsin BMPs are adequate; (b) that they are effective; and (c) that these BMPs will be correctly applied where needed. A thorough analysis of water quality impacts is particularly important given the generally poor quality of water resources throughout the CNNF and the important water features within the project area."	See FEIS, Section 3.9.2, RMZ's. The commenter indicates that BMPs are either optional or inadequate to prevent water quality impacts. For the Twentymile project, the CNNF reviewed comments for both key and minor issues. Issues are points of discussion, debate, or dispute about environmental effects. There is a discussion of Issue 15 – Adequacy of the BMP's in Twentymile EIS. By defining an issue as minor, the Forest Service is not implying that BMPs are inadequate to protect water quality; it simply means that it was a topic to discuss. WDNR research division is currently conducting a research project entitled "Effectiveness of Riparian"

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			Management Zone Best
			Management Practices for
			Preserving Stream Health in
			Timber Harvest Areas". The
			objective of the study is to
			determine if there are any
			meaningful changes to stream
			habitat, fish assemblages, and
			macroinvertebrate
			assemblages after vegetative
			treatments utilizing BMP's
			for water quality. Preliminary
			results suggest that they have not been able to detect
			significant changes in composite habitat and fish
			measures after harvesting
			under existing BMP
			guidelines (WDNR 2010).
			The study is ongoing.
			The commenter indicates that
			the size of buffer strips for
			non-navigable and navigable
			intermittent streams may be
			inadequate based on a study
			published by Kifney et al.
			This study is not applicable to
			the project area as the study
			was conducted in headwaters
			streams of southwestern
			British Columbia where
			stream gradients ranged from 4-16% characterized by thin
			glacial till underlain by
			igneous bedrock. This study
			focuses on high gradient
			streams where clearcuts
			timber harvests were the only
			harvest method used. Stream
			gradients range from 0.01-
			0.3% (FS 2004) on the
			CNNF, according to stream
			classifications. The project
			proposes selection,
			commercial thinning, and
			selection with under-plantings
			as the main harvest methods
			within the projects RMZs.

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			The project area and use of this study to draw conclusions would be too dissimilar to compare.
27	15	"The Lakewood Southeast project scoping notice indicates that 28.6% of the project area consists of 8E, 8F, and 8G MA lands. The March 31 Notice does not specify where these lands are located or how they related to those areas proposed for logging activities. Nor does the Notice The March 31 Notice does not mention potential impacts to other critical or special management areas within the CNNF, such as 2B, 5B, 6A, and 6B areas. The Forest Service must ensure that its activities, including associated road-building and other maintenance, do not compromise the character of these unique natural areas. Studies show that oldgrowth conditions are disappearing on the Chequamegon-Nicolet. These areas provide key opportunities for wilderness recreation in the National Forest as well as important undisturbed wildlife habitat for sensitive species. The Forest Service must ensure that its activities, including associated road-building and other maintenance, do not compromise the character of these unique natural areas. The agency must document State-or federally-recognized special management areas, identify their relative proximity to proposed logging and road-building activities, and evaluate the direct, indirect, and cumulative impacts of those activities on these areas. And given the extreme scarcity of old-growth or near-old-growth stands of white pine, red pine, and hemlock, thoroughly explain how the project will affect such stands."	A discussion of effects to ecological reference areas (MA 8 E, F, and G) can be found in Section 3.10.2 of the EIS. There is no MA 2B, 5B, 6A, or 6B in the project area. Adjacent MA's are 2A, 2B, 3C, 8F, and 8G. This project was redesigned by the IDT after the scoping to ensure that adjacent actions complement the MA 8s. A management area map is posted on our website. FEIS and its' Appendix A lists proposed actions by stands, including MA for each stand.
27	16	"The Forest Service should likewise pay special attention to impacts to other unique characteristics, such as State or federally recognized wild and scenic rivers". Show management area and riparian corridors.	There is no State or Federal wild and scenic rivers in the project area. The riparian corridors are shown on the topographic maps.
27	17	"The causes and consequences of the current overabundance of white-tailed deer in the project area and throughout northern Wisconsin must also be studied. The current chronically high deer populations are largely the result of landscape composition (particularly young aspen) and predominant patterns of logging in the National Forest. Recurring and large-scale clearcuts are	The CNNF disagrees with the assertion that deer populations in the project area are overabundant. The issue of Canada Yew is addressed Section 3.6.2. In that analysis, we provided WDNR data that reports the deer

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	#	known to contribute directly to deer overabundancethe Forest Service must consider (a) impacts to the existing deer population from any proposed aspen clearcuts and (b) impacts to forest conditions as a result of these changes in deer population. Deer at their current high densities are known to act as a "keystone" herbivore within the forests of northern Wisconsin" [Waller & Alverson 1997]. "There is significant literature regarding the impacts that deer have on regenerating forest tree seedlings and understory plant diversity, generally" [Cote 2004]. "In particular, deer have curtailed the successful regeneration of northern white cedar eastern hemlock, yellow birch, white pineand northern red oakacross most sites in northern Wisconsin" [Anderson 1979, etc]. The Wisconsin DNR has noted that (a) cedar and hemlock regeneration are only possible if a deer herd is predicted to be "dramatically lower for at least a tenyear period," and (b) if cedar, hemlock, yellow birch, or Canada yew are present, it is not advisable to manage aspen in the same area due to potential impacts from deer" [DNR] "deer also seriously impact American	populations in the project area are below management goals. Also discussed is how deer populations are influenced by many factors (weather, baiting, and hunting) that are beyond the control of the FS and thus not dictated solely by aspen management (Quinn et al 2006). The WDNR literature reference on cedar, hemlock, and deer is from Silviculture and Forest Aesthetics Handbook, which is a handbook that provides a suite of tools and resources to assist private and industrial foresters to engage in actively managing Wisconsin's forests. That reference is from Chapter 43 that is about Aspen marking guidelines and on p. 18 presents sections on Effects of Aspen Management on Neotropical Forest Migrants and a "Summary of Landscape Considerations". The CNNF believes that this reference does not provide information associated with their statement about deer, cedar, and hemlock. The following statement is the only information provided on p. 43-18 that relates to those topics and it does not support it: "What are the local and regional issues surrounding deer density (e.g. car-deer collisions, hunting opportunities, local economy)? Are there issues with herbivory in the surrounding LTA (e.g. lack of regeneration of hemlock, yellow birch, cedar, or Canada yew; excessive

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	The state of the s		browsing of lilies and orchids)?" The CNNF was unable to respond directly to the reference "deer also seriously impact American ginseng populations" (Doepker and Ozoga) due to this literature reference had no article title, journal issue or volume number, date or page numbers. Only information provided about the information was a title of the magazine the authors past work had appeared in, which was a non-peer reviewed scientific journal (Deer and Deer Hunting). The Van Deleen reference presents factors that influence deer populations and include habitat management, winter severity, baiting and feeding and deer hunting. The CNNF agrees that those issues can
27	18a	"The Forest Service must fully and fairly consider the role that past, present, and reasonably foreseeable logging, road building, and related actions have had and will have on the spread of invasive species in the Lakewood Southeast project area and the CNNF in general. The scoping notice for the Lakewood Southeast project does not address concerns related to nonnative invasive species, pests, or pathogens. But there are numerous invasive species – including spotted knapweed, garlic mustard (Alliaria petiolata), Eurasian honeysuckles (Lonicera X bella, L. tartarica, etc.) and European buckthorn shrubs (Rhamnus cathartica, R. frangula), oriental bittersweet (Celastrus orbiculata), leafy spurge (Euphorbia esula), Orange hawkweed (Hieracium aurantiacum), ox-eye daisy wild parsnip (Pastinaca sativa) – that could be spread due to the logging and road building proposed here" [Rogars et al 2009]. "The Forest Service must study what impacts the	Invasive species are addressed in Section 3.7.2 and 3.7.3 of the FEIS.

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		timber sale would have on the spread of these and other invasive species, what impacts the spread of invasive species would have on the forest, and whether the protective measures designed to prevent the spread of such species are effective."	
27	18b	"Fragmented forests like the Chequamegon-Nicolet are also more likely to be invaded by non-natives, including pests and pathogens such as West Nile Virus, which particularly threatens the redshouldered hawk – a species that merits special attention in the EIS given the importance of redshouldered hawk habitat in this area" [Ruiz 2010].	The CNNF disagrees with the assertion that the CNNF is fragmented. In the forest plan FEIS (pages 3-93 to 3-109) we describe the overall decrease in fragmentation of the National Forest through increases of interior forest, mature hardwood interior forest, northern hardwood patch size, and reduction in road densities resulting from implementation of the forest plan. For more information on the increase of mature interior hardwood habitat on the CNNF, see response to #27-08. The paper cited did not make a conclusion or reference that American robin are a primary reservoir host of West Nile Virus in northern Illinois. The papers only mention of the American robin in the paper was within the 'Background'. It stated "Many competent avian hosts have been identified both in the lab and field [8], and recent work in parts of North America have focused on the possible important role of American Robins (Turdus migratorius) in contributing to virus amplification and maintenance in the sylvatic cycle." The commenter indicates that there would be an increase in West Nile Virus (WNV) cases due to an increase in

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			American robin populations. This is a result of harvest
			treatments creating more edge. The CNNF disagrees with this due to the above and
			data shows that WNV
			occurrences have been very
			low even though American robins have been one of the
			most common and densely
			populated birds on the CNNF.
			Records of WNV occurring in
			wildlife and humans over the
			past 10 years in Forest, Oconto, and Langlade
			Counties have been extremely
			rare. Detection in birds
			occurred within Forest
			County in 2007 (2 cases) and in 2006 there were reported
			cases in Forest, Oconto, and
			Langlade (no data on number
			of cases) and in 2003 within
			Oconto. Human detection
			only occurred once in 2012 in Langlade County. No
			specific locations were given
			for these cases so it is
			possible they occurred in a
			part of the county that is not
			national forest (WDHS 2013). These very low occurrences
			occurred even though the
			American robin is the 7th
			most common bird species
			recorded on the Nicolet
			National Forest Breeding Bird Survey. In addition, the robin
			is ranked 3rd on the average
			abundances of bird species in
			point counts (numbers =
			average observed /100 point
			counts). The data analysis was collected between 1995
			and 2011 through a
			partnership with UW-GB and
			includes 141 bird species and
			317 survey points across the

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	11		NNF (Niemi et al, manuscript
			in prep.).
27	18c	"The threat of exotic earthworms should also be	Earthworms are discussed in
		thoroughly assessed" [Gundale, etc].	Section 3.7.1 of the FEIS.
27	19	"The Forest Service must thoroughly analyze the climate change implications of the project's proposed timber	See the FEIS, Section 3.10.4.
		harvest, road-building, and related activities. To satisfy	,
		the requirements of NEPA and NFMA, the agency must	
		consider both the mitigation and adaptation consequences	
		of this project. Scientific findings from the Chequamegon Ecosystem	
		Atmosphere Study (ChEAS), among other studies,	
		demonstrate that forest management and disturbance	
		activities are key factors in whether a terrestrial	
		landscape produces or effectively sequesters carbon	
		dioxide" [Chen et al 2004]. "The CNNF has the potential	
		to serve as a significant carbon sink in North America if it were allowed to recover from frequent disturbance"	
		[Davis et al 2003]. "However, widespread harvest and	
		regeneration of younger forest has slowed the rate of	
		carbon uptake in the CNNF." [Davis et al 2003]	
		Scientific evidence indicates that young forests are large	
		carbon sources that may only become effective sinks as	
		they age" [Desai 2004]. "Moreover, fragmented forests and frequently disturbed forests release greater amounts	
		of carbon dioxide than mature, interior stands and	
		therefore never reach their full potential as effective	
		carbon sinks" [Chen]. "The Lakewood Southeast project	
		is just one of numerous logging projects proposed Forest-	
		wide that would release significant amounts of stored	
		carbon into the atmosphere" [Navea et al 2010]. "NEPA requires full and fair consideration of this kind of	
		cumulative impact, as new guidance issued by CEQ	
		suggests" [CEQ].	
		"Equally important, this project should be analyzed in	
		terms of its potential to affect the development and	
		protection of climate-resilient habitats within northern	
		Wisconsin. The need to consider the adaptation values of forest landscapes has been a central focus of the Climate	
		Change Response Framework currently being developed	
		for the CNNF.	
		Fortunately, the Lakewood Southeast project can benefit	
		from the Climate Change Response Framework. The	
		Framework represents an effort to integrate climate	
		change science with on-the-ground management. The Lakewood Southeast project therefore represents an ideal	
		opportunity to incorporate climate change science into a	
		Tri and the state of the state	

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	#	forest management decision-making process. Accordingly, the Lakewood Southeast project should be analyzed with the benefit of the Vulnerability Assessment, Mitigation Assessment, and the Framework. The approaches and strategies outlined in the Framework document." [Forest Adaptation Resources 2011] "It is our understanding that the Ecosystem Vulnerability Assessment and Synthesis, a draft of which is also posted on this website, has now been finalized. The scientific research and learning should be reviewed, evaluated, and incorporated into the environmental review and decision-making processes for the Lakewood Southeast project. Doing so will help to ensure that this forest landscape benefits from the technical analyses and management insights being generated in the Framework process. And it will address the "clear and pressing need to bridge the gap between climate change research and actual management activities on National Forests." [CNNF 2010]. "Given that this project will influence the long-term health and resources of the CNNF, an analysis of climate change impacts will also help ensure that the Forest Service does not irretrievably commit resources without the benefit of the Framework process. Similarly, the Forest Service should also consider the climate change data and reports being generated by the Wisconsin Initiative on Climate Change Impacts ("WICCI")" [website]. "Unfortunately, to date it appears that the Forest Service has not grasped this opportunity. The need for a thorough analysis of both the mitigation and adaptation consequences of the Lakewood Southeast project is underscored by the absence of any such discussion in the March 31 Notice. It is imperative that the Forest Service fully and fairly consider the climate change implications of this project" [CNNF 2010]. "And if the Forest Service ultimately approves this project, it should include a set of monitoring indicators to measure the effects of this	
27	20a	project on carbon flux." New alternative should "Defer all proposed clearcuts or shelterwood harvests in white or red pine stands over 80 years of age, to promote continued progress toward "old growth" habitat conditions, and defer logging of any kind in white or red pine stands over 100 years of age. Defer all proposed logging in hardwood stands over 80 years of age, to promote continued progress toward "old growth" habitat conditions, including high levels of downed woody debris. Increase the number of large trees,	Alternative 4 was created to address these concerns. Alternative 4 in Chapter 2 shows which of these requests were included in the alternative development.

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	#	including early successional species (such as aspen), retained in cutting units; Increase the size and number of large downed woody debris in cutting units, particularly near riparian zones and wetlands; Incorporate timber harvest prescriptions that do not result in increases in soil temperature in cutting units; Eliminate proposed logging within 30 meters of any stream, lake, or other water body in the project area, except to facilitate succession to longer-lived species. Close and decommission additional roads in the project area, and reduce the amount of proposed road construction, particularly in Riparian Management Zones. Eliminate all proposed even-aged treatments within 400 meters of Canada Yew, if any, and yellow birch sites to reduce amounts of new forage for white-tailed deer. Defer all logging within 500 meters of historic or current northern goshawk or red-shouldered hawk nest sites, if any. Ensure that all logging activities for this project fully adhere to Forest Plan guidelines. Those guidelines are important for the protection and continued viability of RFSS such as the red-shouldered hawk and northern goshawk".	
27	20b	Please implement Alternative 4 rather than the preferred. This alternative allows natural succession of aspen, reduces clearcutting, and limits road construction.	The Deciding Official will consider all comments and analysis in his decision. He will make his decision based on effects on resources, both positive and negative, and weigh the outcome as a whole. Impacts can be easily seen and compared in the charts at the end of Chapter 2.
28	1	The decline in harvest has devastating effects the economies of northern Wisconsin.	Thank you for your comment.
28	3	What species are present in aspen stands with a 110-120 BA, should these be classified as aspen?	These stands were recently examined and do type out as aspen stands. They are aspen types with components of oak, hardwood, and pine.
28	4	Where are the other acres of aspen that are to be converted? Percentage and acres, as well as species composition should be discussed across the project area instead of certain MA's.	The FEIS shows this on Table 1.2.1.1. The treatment tables and maps included in FEIS Appendix A show which aspen stands are being converted (thinnings and

ID	Com ment #	Comment	Forest Service Answer
			shelterwoods) their locations. Our forest's protocol is to evaluate composition percentages at the MA level.
28	6	Jack pine is declining, it provides habitat for species of concern. Since you are not meeting ASQ's, why follow the forest plan on reducing aspen and jack pine?	Attainment of the ASQ is a larger issue based on funding and resources. We are trying to follow forest plan direction in this area and at this time to the best of our ability. In response to your concerns of aspen and jack pine decline, we developed Alternative 3.
29	2	Deer are declining	Management of white tailed- deer populations and harvest quotas are controlled and determined by the WDNR.
29	3	Judge has stopped some logging, but I hear it will start again.	Thank you for your comment.

B. Comments during the comment period

ID	Com	Comment	Forest Service Answer
	ment		
	#		
27	14	"The DEIS' analysis of water quality impacts finds	See response to comment 27-
		that the project's logging, road building and other	14a and b, Subpart A.
		related activities would have only "minimal" effects	
		on water quality and, therefore, "would not impair	
		the long-term water quality" because "project design	
		features" will be followed "This analysis is	
		inadequate because the Forest Service continues to	
		rely on the Wisconsin DNR's BMPs as "project	
		design features" to protect water resources. (See	
		e.g., Id.). As the commenters have repeatedly	
		pointed out in comments and challenges to past	
		CNNF projects, the BMPs are not adequate to	
		prevent water quality impacts from logging	
		activities. (See e.g., HEC & ELPC, Park Falls	
		Hardwoods Draft EIS Comments, May 7, 2012).	
		The BMPs' problems have been detailed to the	
		Forest Service in the past and the Forest	
		Service has recognized that they may be inadequate.	
		(See Twentymile EIS at 1-27). The overarching	
		problem with the BMPs is that their requirements	

		contain numerous exceptions and caveats. For many of the standards and guidelines, a project manager can disregard the "best practice" and still comply with the BMPs if the manager deems the standard "impractical" or "not possible". Moreover, many of the "standards" the BMPs establish are arbitrary and not based on the best available science. For example, the relaxed criterion for the size of buffer strips around non-navigable and navigable intermittent streams (35 feet rather than 100 feet) has no scientific basis. (See DEIS at 115). Headwater streams are often the most vulnerable to effects of disruption of the riparian zones given their generally steeper slopes. A study published in a peer-reviewed journal demonstrates that even a 100 feet buffer is not enough to protect headwater streams from detrimental changes in light and temperatures associated with clearcuts" [Kiffney et al 2003]. "The Forest Service should not rely on state standards whole-cloth when presented with information that the standards are insufficient. Requiring the BMPs with minor changes limiting the project manager's discretion or tweaking BMP standards based on the best available science would go a long way towards ensuring that the lack of water quality impacts the Forest Service asserts in the DEIS is borne out in practice. Therefore, the Forest Service should amend the BMP standards by removing the problematic portions for this and future projects."	
27	17a	"The DEIS fails to fully account for the projects impacts on the already overstocked deer population and the resulting impact from overpopulated deer on species that are harmed by deer browse, such as Canada Yew. The DEIS' analysis of impacts to the Canada Yew is flawed because it seriously downplays the effects of the project on deer browse. The DEIS asserts that the project will not impact Canada Yew because "risk of damage and loss of individual plants by deer would be minimal" "This assertion ignores the known and well-documented links between logging, deer browse and Canada Yew. The literature clearly documents the link between increases in edge and early successional or more open habitats, consequent	See response # 27-17. The commenter indicates that we have ignored the impacts of white-tailed deer browsing and the connection between early successional edge habitat and white-tailed deer populations. We acknowledge that there is much literature that has documented the effects of deer browsing on Canada yew and forest diversity (Allison, 1990; Alverson et al, 1998; Beals, et al 1960; Cote, et al, 2004; Foster, 1993). However, recent research

increases in habitat suitability for white-tailed deer leading to local population increases, and the direct and controlling impacts of deer on the ability of Yew to survive and reproduce" [Allison 1990, etc]. "To ignore these known impacts, and particularly the effects of timber harvest activities on deer populations, is a serious error that must be corrected in the Final EIS.

....In analyzing impacts on the Canada Yew and the other deer-constrained species in the FEIS, the Forest Service must consider (a) impacts to the existing deer population from any proposed aspen clearcuts and (b) impacts to forest conditions as a result of these changes in deer population."

suggests that understory richness may have no correlation to deer densities and use (Rutherford and Schmitz 2010) or in some cases may enhance plant diversity (Royo et al 2010). Further, recent research also indicates that in some circumstances increasing the amount of early successional forest habitat may actually have substantial impacts on reducing deer herbivory in areas where other desired forest species may be limited by herbivory (Miller et al 2009).

The forest plan designated Canada yew as an MIS because of a concern about impacts to Canada yew primarily due to white-tailed deer browsing (forest plan FEIS, p 2-55). It has also been well documented that white-tailed deer utilize and prefer a high edge to area ratio, which is often provided by aspen clearcuts and other early successional habitat management activities (Fisher & Wilkinson 2005; Tomm et al 1981).

Within the project area, there are only two locations (2.8% on the district and 0.8% of NNF) and they are located in MA 8G and 8F. None of the action alternatives has proposed harvest treatments in any stands that contain Canada yew so there will be no impact.

In general, the forest plan FEIS concluded that a relatively continuous canopy cover would benefit Canada yew. More specifically, the selection harvest of northern hardwoods in the project

			would maintain a relatively high canopy closure of 75 to 80% and would be conducive to the growth and establishment of Canada yew in the project area. Impacts from white-tailed deer to Canada yew are in FEIS, Section 3.6.
27	17b	"Deer at their current high densities are known to act as a "keystone" herbivore within the forests of northern Wisconsin" [Waller & Alverson 1997]. "There is significant literature regarding the impacts that deer have on regenerating forest tree seedlings and understory plant diversity, generally" [Cote et al 2004]. "In particular, deer have curtailed the successful regeneration of northern white cedar, eastern hemlock, yellow birch, white pine and northern red oak across most sites in northern Wisconsin" [Cote et al 2004]. "The Wisconsin DNR has noted that (a) cedar and hemlock regeneration are only possible if a deer herd is predicted to be "dramatically lower for at least a ten-year period," and (b) if cedar, hemlock, yellow birch, or Canada yew are present, it is not advisable to manage aspen in the same area due to potential impacts from deer" [DNR]. "The current chronically high deer populations are largely the result of landscape composition (particularly young aspen) and predominant patterns of logging in the National Forest. Recurring and large-scale clearcuts are known to contribute directly to deer overabundance."	See # 27-17a, Subpart B. The CNNF recognizes that the Wisconsin white-tailed deer herd was, until recently, at chronically high population levels and we remain familiar with the literature. The CNNF continues to acknowledge that deer can play a role in inhibiting regeneration of some tree species, which is one of the reasons that the forest plan aims to reduce favorable white-tailed deer habitat by creating blocks of interior hardwoods habitats that would provide less preferred habitat for white-tailed deer. Impacts from deer are analyzed in the FES Section 3.6. Overall deer numbers have been reduced in the past several years mainly due to increased harvest permits and a possible increase in predation from an increase in predator populations. The amount of clearcutting has gone down across the CNNF while the deer population was going up prior to 2008. With the amount of deer baiting with corn, the State of Wisconsin increasing deer herd goals by 8% statewide, and coupled with numerous mild winters, the very small amount of clearcutting in the project area cannot be correlated with an increase in deer populations or an

27	21	"Alternative 2, pro[sic]scribing logging on 225 acresWater Resources section of the DEIS states that logging is proposed on 189 acres of trout buffers. (DEIS at 116). It is not clear which figure is accurate."	increase in browsing. In addition, all alternatives move the project area to an increase in later successional habitat (aspen habitat decreased), further reducing any potentially related increase in deer populations due to aspen and other early successional habitat. The figure should be 232 for total treatment and 189 acres are being thinned in the trout stream buffers for Alt. 2. The 225 was total acres treated in the RMZ for Alt. 2.
27	22a	"The Lakewood Southeast project allows for significant biomass removal, but the DEIS does not include a cumulative impacts analysis of biomass removal impacts. Likewise, the DEIS does not tier to another impacts analysis, as the Forest Service has not provided any CNNF-wide analysis of the biomass removal it is including in its management projects. The FEIS must contain a cumulative impacts analysis for biomass removal, especially given the absence of any forest-wide analysis. NEPA requires that the Forest Service take "a hard look at environmental consequences". See e.g. Habitat Educ. Ctr. v. United States Forest Serv., 593 F. Supp. 2d 1019, 1025 (E.D. Wis. 2009). In so doing, the Forest Service "must articulate why it has settled upon a particular plan and what environmental harms (or benefits) its choice entails". Id. (internal quotations omitted). As part of the 'hard look,' NEPA requires a cumulative impacts analysis. This analysis ensures that the Forest Service analyze the Lakewood Southeast project's impacts in conjunction with "other past, present and reasonably foreseeable future actions" so that impacts from "collectively significant actions taking place over a period of time" are not overlooked. 40 C.F.R. § 1508.25. The DEIS, however, fails to take a 'hard look' at biomass removal because it does not include a cumulative impacts analysis. The Lakewood Southeast project allows significant	See Section 3.8.3 of the FEIS. There would be no detrimental cumulative effects to the soils/LTPs expected from the biomass removal proposed by this project because there have been no known detrimental effects identified from past harvest actions, and no predicted detrimental direct or indirect effects from biomass removal activities proposed in Alternative 2 or 3 of this project. All other CNNF projects that would allow some biomass removal, such as Park Falls Hardwoods, Washburn Red Pine Thinning, or Early successional Habitat Improvement, occur on different LTPs than the LSE project, and would have no potential direct, indirect, or cumulative effects to the soil resource specific to the LSE Project area. Soil resource reports completed for all CNNF projects that would allow some amount of whole- tree removal to date have found there would be no detrimental cumulative effects to the soil resource or long- term productivity of the land

		biomass removal and is not the first or only project in the	from whole tree (bole plus
		CNNF to allow large-scale biomass removal. The project	crown) removal. This is
		calls for biomass removal on 1,597 acres. (DEIS at 5).	because site-specific woody
		The Forest Service has also included large-scale biomass	biomass harvesting guidelines
		removal in past projects, such as the recent Park Falls	are followed, including
		Hardwoods project, which would allow 30,400 green	restricting susceptible soils
		tons of biomass removal on up to 16,984 acres. (Park	and retaining recommended
		Falls Hardwoods ROD at 5; FEIS at 217). However, to	amounts of fine woody debris
		date, the Forest Service has not completed any holistic	to maintain total site
		impacts analysis from the biomass removal it is allowing	nutrients. Any future
		in multiple projects throughout the CNNFAt the very	proposed whole-tree removal
		minimum, the FEIS must include a cumulative impacts	from treatment areas that have
		analysis for biomass removal that examines the	had past whole-tree harvests
		cumulative impacts of the Lakewood Southeast project	should be evaluated for
		with the Park Falls Hardwoods project and all other	potential cumulative effects of
		recent and foreseeable future projects with biomass	multiple biomass harvests on
		removal. Not only is this required by NEPA's general	total site nutrients with
		cumulative impacts requirement, but failure do so would	consideration for the latest
		result in absolutely no analysis of the Forest Service's	site-specific soil guidelines
		overall biomass removal program. The Forest Service	and research findings.
		cannot evade its obligation to analyze the impacts from	Potential cumulative effects to
		the multiple biomass removal projects it is allowing at	the soil resource are
		various locations throughout the forest by not providing a	reasonably confined to the
		holistic analysis either through a Forest Plan amendment	soil directly beneath where
		or a programmatic EIS, and at the same time avoid a	the activity would take place,
		cumulative impacts analysis. Doing so prevents a	such as the operation of
		complete picture of the impacts of large-scale biomass	machinery to cut and remove
		removal and is a clear example of the "tyranny of small	trees. The removal of
		decisions." <i>Habitat Educ. Ctr.</i> , 593 F. Supp. 2d at 1030.	nutrients in merchantable tree
		Therefore, the FEIS must include a cumulative impacts	boles or whole trees (bole
		-	plus crown) from one
		analysis of biomass removal impacts including all past	treatment area would not
		biomass removal projects in the CNNF."	
			affect total site nutrients or
			long-term productivity of the
			land on other treatment areas
			within or adjacent to this
			project area or other project
			areas across the CNNF with
27	221-	"D	similar proposed actions.
27	22b	"Because it is a relatively new and significant use of	The Forest Service has been
		forest resources, biomass removal is an	working with the WDNR on
		excellent candidate for a Forest Plan amendment,	Biomass Harvesting
		which is allowed "at any time" and "may be	Guidelines (BHG) both
		broad or narrow, depending on the need for change,	creating, revising, and
		and should be used to keep plans current and	monitoring guidelines. A
		help units adapt to new information or changing	Forest Service IDT reviewed
		conditions." 36 C.F.R. § 219.13(a). Such an	the WDNR's BHG and
			compared them to the forest
		amendment would accomplish a thorough	plan. Biomass harvest is
		consideration of the impacts and benefits of	restricted by forest plan
		allowing biomass removal throughout the forest as a	guidelines (such as avoiding

27	23	whole, rather than through a piecemeal approach that only analyzes each project in isolation, as the Forest Service has been doing thus far. The Forest removal program through a programmatic EIS The Forest Service should also consider a Forest Plan amendment or programmatic EIS analyzing biomass removal impacts so that its future decisions regarding biomass are fully informed" Project should not allow road building in MA 8F.	biomass harvest in MA 2B). The 9-17-2009 and 5- 21- 2010 letters to the District Rangers have instructions for biomass guidelines to be incorporated into timber sales. Due to forest plan direction and resource concerns, this road construction was dropped.
27	24	"The second "Purpose and Need" for the project is to "Correct age class distribution" for northern hardwoods, red pine and white pine, among others. (DEIS at 4). For all three of these tree species and classes, the majority of the trees are in the 61-100 year age group (61-120 for white pine) because they were planted by the Civilian Conservation Corps after the original forests in the Northwoods were wiped out in the late 19th and early 20th centuries. (See DEIS at 16). As a result, there is a greater percentage of trees in the 61-100/120 age group and far smaller percentages for 0-20 and 101/121+ age groups than is outlined in the Forest Plan's "desired" age class distribution. (See e.g. DEIS at 22-24). To try to move towards the 'desired condition,' the project prescribes logging the 61-101/120 age class to increase the 0-20 age class, while simultaneously increasing the 101/121+ age distribution. (DEIS at 22-23, 24). On its face, it is not clear how this plan to log the 60-100/120 aged trees will be able increase both the distribution of 0-20 and 101/121+ aged trees. Intuitively, it seems that logging trees aged 61-100/120 is not a sound strategy to increase 101/121+ aged trees, as the 60-100/120 aged trees will eventually naturally convert to the older age classes. The DEIS recognizes this dilemma as it states that "[i]t would be impossible" to meet the objective of converting the northern hardwoods 60-100 age class to both the youngest and oldest age classes "at the same time". (DEIS at 22). "No set of treatements today would instantly change the project area to meet all [Desired Forest Conditions] in the forest plan. This would take many entries and much time. But there are some actions that could be taken	FEIS Need 2C shows there is an excess of northern hardwood in the 61-100 year age class and a shortage of 0-20 year old hardwood stands. Using shelterwood regeneration harvests, we would increase the acreage in the 0-20 year age class and decrease the acreage in the 61-100 year age class. There would still be a surplus of acreage in the 101+ year age class. Thus, by regenerating some of the acreage, we are actually getting a net increase in both the youngest and oldest age classes. This is further discussed in the FEIS Need 2C, 2E, and 2F. For red and white pine see #27-9, Subpart A. Need 2E and 2F in the FEIS explains that there is an excess of red and white pine 61-100 and 61-120 years of age, respectively. As stated in the FEIS Need 2E, most of this acreage is in stands 69-77 years of age. It is mainly these stands (and not 100-120 year old stands) that are proposed for regeneration. Again, in this case, some 61-100 old stands would be

		today that would move the area towards those [Desired Forest Conditions." <i>Id.</i> However, the DEIS does not explain what these "actions" are and how they will achieve increasing the oldest and youngest age classes. This dilemma and lack of explanation holds true for red and white pine as well. The DEIS provides tables showing the age class distributions each project alternative would create for red and white pine (no table is provided for Northern Hardwoods), but does not explain the logging amounts, the time scale at which the percentages are measured and how logging the 61-100/120 age class would result in the hoped-for increases in other age classes. (DEIS at 58). The FEIS must include a much more detailed explanation as to how the project will achieve this "impossibility" such that the public can fully understand the Forest Service's logic."	regenerated to increase the young age class. However, there would be more than enough acreage remaining to grow into the 100-120 and 121+ year age classes. Thus, there would be a net increase in the percentage of acreage in both the youngest and oldest age classes. Alternatives 3 and 4 were developed, in part, to respond to the concern about regenerating the oldest age class of red and white pine. No pine stands greater than 100 years would be regenerated in either of these alternatives. However, many pine stands in the 60-79 year range would be regenerated in an effort to address the lack of young pine forest in the project area.
27	25	"In order to fully evaluate the project's impacts on the eastern timber wolf, a Regional Forester Sensitive Species, the FEIS must include the recent Wisconsin wolf hunt in its analysis. This fall, Wisconsin legalized wolf hunting after the wolf was removed from the federal Endangered Species List, and the state DNR issued proposed regulations on June 6, 2012. The hunting regulations allow taking up to 20 wolves in the hunting Zone where the project area is located. (See WI DNR 2012 Regulations). The taking of up to 20 wolves in the project area is a significant change and the Forest Service must take a 'hard look' at how the proposed project may impact the wolf population in conjunction with wolf hunting. For example, it's possible that new road construction or opening of motorized or non-motorized roads could facilitate hunting. Certainly the Forest Service is not responsible for this policy change, nonetheless, NEPA requires that it include this significant new wolf impact in conjunction with the proposed project."	Analysis of the 2012 wolf hunt and project road management effects to wolves are addressed within the BE Section 6.1.2.1 and in the FEIS, Section 3.4.1.2.

27 26

"The Forest Service must update the FEIS to include the impacts of unexpected winter thaws on soils and water quality and should also develop guidelines for operating machinery during winter thaws. In many situations, the Forest Plan guidelines and project requirements restrict logging activities to frozen ground only in order to avoid soil impacts, such as compaction and rutting, and to prevent sedimentation that has severe water quality impacts. (See e.g., DEIS at 45 (Water Quality Protection Requirement D3 restricts activities near riparian areas that are wet near the surface year-round to only when the ground is frozen)). The DEIS claims these frozen ground restrictions limit the project's soil and water quality impacts. For example, it states that the "[p]otential for long-term detrimental compaction or rutting is minimized by limiting the operating conditions to dry or frozen ground". (DEIS at 104).

The DEIS, however, does not consider the impacts that would result from unexpected winter thaws. Unexpected thaws could result in soil and water quality impacts that the frozen ground restriction is meant to prevent if ground thaws mid-winter where logging activities have already started on previously frozen ground. The Forest Service recognizes the potential for unexpected thaws and their impacts. In the 2005 Camp Four timber sale, the Water Specialist's Report stated that "[a]lthough some of the project areas have a winter logging provision, unseasonably warm temperatures may develop during frozen conditions that can create operating problems, where the potential for rutting, compaction, and soil erosion may increase." (2005) Report at 19). Yet the DEIS makes no mention of the potential for mid-winter thaws or their potential impacts. This omission is particularly problematic because mid-winter thaws and previously "unseasonable" temperatures are increasingly likely due to climate change. The Forest Service's Climate Change Response Framework 2011 report analyzing potential climate change effects in the CNNF, "Ecosystem Vulnerability Assessment and Synthesis," finds that temperature increase is "virtually certain" with "[e]ven the most conservative models and

The previous and current forest plan soils guidelines and soil-specific recommended operating seasons, along with timber sale administration and contract provisions, has been successfully addressing this concern for decades. Northern Wisconsin has commonly experienced winter thaws and they are expected and dealt with by CNNF Timber Sale Administrators through timber sale operations, which shut down per contract specifications. See FEIS, Soils Section 3.8.2 (Action Alternatives, Soil compaction and rutting).

If there is a winter thaw and the ground is no longer frozen, then the soil guideline would not be met and operations would be stopped, which we successfully do each winter. Annual soil impact monitoring continues to show this and is documented in the CNNF annual and five year Forest Plan Monitoring Reports. See the FEIS, Section 3.8.2 (Cumulative effects, past actions).

Also, see the FEIS, Section 3.8.1, Affected Environment, last paragraph on winter climate.

Ninety-nine percent of this project area where heavy

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		scenarios project[ing] an increase in average temperature in northern Wisconsin." (2011 Report at 70). Moreover, "[t]hese increases are projected to be greatest in the winter," albeit with "daily lows more affected than daily highs". (<i>Id.</i>) With increasingly warm winters, it is more and more likely that there will be thaws at various times throughout the winter. The Forest Service clearly recognizes this change and its potential impacts. Therefore, NEPA requires that they be included in the FEIS. In addition, the Forest Service should update its frozen ground requirement and operating guidelines to explicitly require frozen ground-restricted logging activities to immediately stop when the ground thaws, and to include procedures to best prevent impacts during an unexpected thaw."	equipment use is proposed is comprised of well drained sandy soils that are not readily subject to rutting or compaction, with one percent or less requiring frozen ground operations to avoid soil rutting or compaction. FEIS states that about 134, 81, 43 or acres (1, <1, or <1 percent) of proposed harvest that requires winter only operation of heavy equipment in Alternatives 2-4 respectively.
27	7	The Forest Service should institute a 124-acre goshawk nest buffer rather than a 30-acre buffer in the Lakewood Southeast project The DEIS applies a 30-acre nest buffer to reduce the impacts from logging and the attendant human activities on rare goshawk nesting sites. As part of the Long Rail project settlement, however, the Forest Service instituted a 124-acre nest buffer in that project to study the effectiveness of the larger buffer. (Long Rail Settlement Agreement at para. 3). To our knowledge, the study's findings have not been finalized or released. In the meantime, the Forest Service should err on the side of caution and protection by applying the 124-acre buffer until it demonstrates that a 30-acre buffer is as effective. The cautious approach is especially appropriate given the goshawk's viability concerns and its status as a MIS and RSFF.	The signed Long Rail Project Appeal Deposition Agreement (Appeal No. 07-09-13-0012 A215) between the Forest Service and ELPC states that implementation of 124-acre nest buffers only pertains to the Long Rail Project area and not to any other project management areas on the CNNF. Any goshawk or red-shouldered hawk nest would be protected following the guidelines of the forest plan (p. 2-20 to 2-21). This includes a 30-acre buffer surrounding the nest were no activities would occur and out beyond this 330 feet, only activities that do not lower canopy closure below 80 percent and that are considered uneven-aged management could occur. These guidelines are consistent with the WDNR working guidelines for forestry (Woodford 2008, p. 01) and are also supported by goshawk researcher T. Erdman who has indicated that these protection measures

			are sufficient (Erdman, T. 2003. Unpublished report on the effectiveness of 30 acre buffers).
31	1	We need to preserve our natural heritage.	Thank you for your
35	1	Use "biological" basis for mgt not short-term gains.	comments. Effects on all
39	1	Keep overall long-term health of the forest ecosystem.	resources will be weighed by
42	1	Forest provides critical habitat for thousands of species.	the Deciding Official for both
44	1	It's a disservice to clearcut aspen and perform road work.	short and long-term.
47	1	Forests are priceless places. We need to keep it as such!	short and long-term.
48	4	LSE will have a negative effect on resources.	
50	1	Forests are our lungs.	
51		9	
52	6 1	Resources need to manage for health and safety.	
55		The CNNF is an important resource. Save the CNNF!	
	$\begin{vmatrix} 1 \\ 3 \end{vmatrix}$		
60		Use only scientists trained in sustainable forestry.	
61	1	Strongly support the listed initiatives outlined above.	
62	4	No short-term gain-maintain healthy ecosystems.	
63	1	Allow only careful selective cutting.	
64	5	Protect biodiversity and maintain water quality.	
68	5	I appreciate your effects in this direction.	
69	1	Forest provides crucial habitat for thousands of species.	
31	2	I will not visit parks during hunting season.	Comments are outside the
37	1	Parks are American heritage- no development.	scope of this federal project.
38	1	Hunting in parks until middle of May is insane.	
44	4	Sporting Heritage law (Act 168) frightens me.	
49	1	The DNR should let people know what is going on.	
32	1	Please implement Alternative 4 rather than the preferred.	Thank you for your comment.
33	1	This alternative allows natural succession of aspen,	
34	1	reduces clearcutting, and limits road construction.	The Deciding Official will
36	1		consider all comments and
39	2		analysis in his decision. He
41	1		will make his decision based
42	3		on effects on resources, both
43	1		positive and negative, and
46	1		weigh the outcome as a
48	1		whole. Impacts can be easily
51	1		seen and compared in the
52	1		charts at the end of Chapter 2.
56	1		
57	1		
58	1		
59	1		
60	1	Some forest in Wisconsin are sensitive to change-Alt. 4	
62	1	Zonie rozest in Tribeonom are benefit to to change rith a	
64	1		
65	1		
66	1		
67	1		
68	3		
00	ر ا		

69	2		
32	2	Prohibit logging on the banks and it the buffer zones	The science behind the "no
33	2	of Class I and II native cold water trout streams. FS is	aspen trout buffer" is in the
34	2	using logging to control beaver activity. Recent New	FEIS, Section 3.9.1, Trout
36	2	York Times op-ed describes logging to control beaver	Streams. Beaver can
39	3	activity is flawed.	adversely affect trout habitat
42	4	333	by blocking migration,
43	2	"This is crucial for trout. Please note paragraphs 4-7	reducing shade through
44	2	of the following NY Times 9-28-2012 Op-Ed.by	flooding, increasing water
45	1	Mary Ellen Hannibal: "Stands of aspen and other	temperature, causing
46	2	native vegetation, once decimated by overgrazing, are	sedimentation of spawning
48	2	now growing up along the banks. This may have	areas and altering habitat,
51	2	something to do with changing fire patterns, but it is	which causes increased
52	3	also probably because elk and other browsing animals	competition from other
56	2	behave differently when wolves are around. Instead	species. The peer-reviewed
57	2	of eating greenery down to the soil, they take a bite or	science is referenced in the
62	2	two, look up to check for threats, and keep moving.	2002 USDA Forest Service
64	2, 3	The greenery can grow tall enough to reproduce."	report "Issue Based Aquatic
65	2		Assessment for the
66	2		Chequamegon-Nicolet NF
68	4		Plan Revision Report". The
69	3		Hannibal paper has no
34	3, 5	Scientists call this sequence of impacts down the food	scientific backup, so we
	,	chain a "trophic cascade". The wolf is connected to	cannot review and answer it.
		the elk is connected to the aspen is connected to the	The peer reviewed paper
		beaver. Keeping these connections going ensures	(Fuller et al 2011) provided
		healthy, functioning ecosystems, which in turn	by the commenter is not
		support human life."	applicable to low gradient
		support nunun ige.	streams in northern
51	3	"All of the species are interconnected, and logging is	Wisconsin. The paper
		not the solution: saving the wolves definitely is; more	examines downstream
		predators, less beavers."	temperature changes as they
			relate to the size of the beaver
60	2	"There are cold-water trout streams which would be	dam head and impounded
		potentially ruined by logging on shores. Beaver will	upstream area. All beaver
		not harm trout streams. Human logging will."	ponds studied were in
			mountainous conditions in
27	21	"While the Forest Service's intention of preventing	elevations between 9,000 and
		trout steam warming is commendable, its method and	10,000 feet. The average air
		justification are flawed. First, peer-reviewed science	and water temperatures as
		does not support the conclusion that beaver activity is	well as other physical stream
		categorically harmful to cold-water fisheries. In fact,	conditions are vastly different
		the leading science suggests that beaver activity can	from what are found in the
		be beneficial to trout streams. Second, even if the	Lakewood Southeast Project
		Forest Service's theory that beaver activity is harmful	Area. The use of the study to
		to cold-water fisheries is correct, logging within trout	draw conclusions on the
		buffer zones would not prevent stream warming. For	impact of beaver to project
		these reasons, the most certain way to prevent harmful	area trout streams would be
		impacts on the Class I and II trout streams is to not	too dissimilar to support
		allow logging in the trout buffer zones.	comparison. In addition,
			beaver activity can affect
-			

There is simply no published, peer reviewed science that supports the conclusion that beaver activity is categorically harmful to Coldwater fisheries. Indeed, the best available science finds that beaver activity is often beneficial to Coldwater fisheries. For example, a 2011 study in the field's leading peer-reviewed journal, Freshwater Biology, showed that beaver dams can actually reduce the stream water temperature. It found that, depending on the size and shape of the impoundment upstream of the dam and the height of the dam itself, beaver activity can increase upwelling of cooler groundwater that decreases stream temperature downstream of the dam" [Fuller & Peccary 2011]. "It also surveyed and cited numerous studies from many different locations and geographies that had similar findings. The Forest Service's report, on which it relies as justification for the trout stream logging strategy (DEIS at 112), also concludes that beaver are not categorically harmful to trout streams" [USFS 2002]. "After describing beaver impacts that various studies have found, the report states that "[w]hether any of these effects actually occur depends on the specific characteristics of each stream, including the size. amount of groundwater inflow, channel materials, gradient, and floodplain width." (USFS 2002 at 10, emphasis added). This report's conclusion is consistent with the Fuller & Peckarsky study and is directly relevant as it cites a study conducted in the Nicolet National Forest" [McGrae & Edwards 1994]. "and a study of streams in Michigan forests" [White 1990], "which also find that beaver activity is not necessarily harmful to trout streams and can be beneficial.

The Forest Service's strategy to log aspen in trout buffer zones, however, relies on the incorrect assumption that beaver activity is categorically harmful to trout streams. Since the Forest Service's strategy relies on this incorrect assumption, the strategy is inherently flawed.

Rather than being categorically harmful to trout streams, beaver activity may or may not be harmful depending on the circumstances. Therefore, without knowing the actual extent of beaver impacts on the streams in the project area, it is entirely possible that logging in trout buffer zones would have no beneficial impact on trout streams. The possibility that logging along trout streams may not be beneficial should be weighed against the certain impacts that

more than just stream temperature, particularly in low gradient streams. The forest plan's goal of the "no aspen regeneration zone" is to manage vegetation within these zones for species other than aspen, preferably long-lived conifers and hardwoods. The treatments prescribed in all the alternatives are designed to meet this purpose while maintaining streamside shade and reducing potential for sediment. Within the 300/450 foot no aspen regeneration zone, the RMZ extends either 100 ft. or 35 ft. from ordinary high water mark landward where harvesting plans would leave at least 60 square feet of basal area per acre in trees 5" DBH and greater. The type of harvest treatments proposed that fall within the 300/450 foot trout buffer zones are designed to meet the standards of BMPs (for the area that falls within the RMZ) as well as the objective to reduce the amount of aspen as an available food source. Again, beaver can adversely affect trout habitat by blocking migration, reducing shade through flooding, increasing water temperature, causing sedimentation of spawning areas, and altering habitat, which causes increased competition from other fish species. Aspen is a preferred food of beaver. Beaver do most of their foraging within 300 feet of the edge of water, but would forage out to 600 feet. The construction of canals and flooding associated with beaver impoundments can

would occur from logging in these habitats to determine if the strategy is likely to be beneficial overall. Instead, the Forest Service's strategy simply assumes that trout stream benefits will automatically follow from its strategy because less beaver activity will automatically result in less harm to trout streams... Since this assumption is refuted in the best available science and the Forest Service's own report, the Forest Service must explain how this strategy will actually benefit trout streams in the project area, and if it cannot determine that the strategy will be a net benefit to trout streams, then the Forest Service should remove the strategy from the project. Even if the Forest Service's beaver theory is correct, it is not clear how the strategy of logging aspen along the trout streams will help maintain cold water temperatures in the short-and middle-term. In the short-term, if all aspen are removed, this would create the same problem– removing shade – that the Forest Service argues beavers might create. The Forest Plan guidelines seem to address this concern by requiring that any logging leave 80% canopy cover on trout stream banks... However, leaving sufficient canopy cover makes the middle-term solution unclear; if upwards of 80% of aspen are left after logging, wouldn't this still be enough aspen to attract the beaver activity the logging is supposed to be discouraging? If aspen only make up 20% of a stand along trout streams, then even if beaver remove those aspen, wouldn't the remaining 80% canopy cover be sufficient to shade the stream? If aspen logging would either reduce shade in the

If aspen logging would either reduce shade in the short-term or not be sufficient to prevent attracting beaver in the middle-term, it is not an appropriate solution because, in either case, the goal of increasing shade for coldwater fisheries would not be achieved. Additionally, if aspen make up a small enough portion that 80% canopy cover is left after logging the aspen, then presumably beaver removing those aspen would have the same shade effects as logging the aspen. The FEIS must explain how logging aspen could be effective given these apparent design flaws. It must also explain why even an effective logging strategy is preferable to avoiding the harmful effects of sedimentation and other logging impacts in these vulnerable habitats. A better solution to benefit trout streams is not

logging in the trout buffer zones and allowing the

aspen to succeed to longer-lived species naturally. This solution is not contrary to the best available

science and does not have implementation problems.

improve access and shorten the foraging distance to aspen (USFS 2002). If the harvest treatment does not meet these objectives then the vegetative treatment would not occur until outside the 300/450 foot zone.

Appendix F of the Aquatic Resources Report for the Lakewood Southeast project describes in detail the monitoring that has occurred that has shown that BMPs are adequate, they have been correctly applied, and they are effective when implemented.

Appendix D (forest plan standards and guidelines) plus additional design features that were determined to be needed for the projects being considered in this analysis. Both forest plan standards and guidelines, and design measures are an integral part of each of the action alternatives. They are meant to meet or exceed BMPs for water quality.

The intent of forest plan standard (p. 2-16) for fisheries habitat management is to maintain a minimum 80% shrub or tree shade (where present) around ground water seeps within cool and cold water streams. DEIS at p. 45 left out the words "ground water seeps", which is the intent for this standard.

Potential for soil movement and/or sediment is discussed in the FEIS soils and aquatics sections. Impacts to these resources are first addressed by the projects themselves.

		While the Forest Service theorizes that beaver activity	See FEIS, Section 3.9.2 for a
		can negatively affect trout streams, it is well known	list of road activities located
		that logging in trout buffer zones has harmful impacts	within and/or cross streams.
		on streams. Logging near streams can cause	Up to 1 mile of roads that
		"sedimentation issues by road building/usage, any	cross through wetlands would
		stream crossings, heavy equipment use and any	be decommissioned. One
		possible associated rutting or soil disturbance". (See	road proposed for new
		*	construction located near
		e.g., Park Falls Hardwoods DEIS MIS 5 Report at 9).	
		"The sedimentation, in turn, is very harmful to	RMZs would provide an
		fisheries, as described above. It is not prudent for the	opportunity to decommission
		Forest Service to allow logging in trout buffer zones	a route where ATVs use is
		based on an unsupported theory that may not reduce	located along a lake and
		impacts on trout streams when the logging itself is	another would only utilize a
		much more likely to have negative impacts.	temporary bridge. These
		Therefore, the Forest Service should amend the	proposed activities help to
		project to not allow logging in the trout buffer zones.	preserve hydrologic function
		If not, because the science shows that beaver are not	as well as overall integrity of
		categorically harmful to trout streams, the Forest	aquatic ecosystems. All
		Service must demonstrate that trout streams in	construction activities would
		the project area is actually negatively impacted by	implement and maintain
		beaver activity and that those impacts outweigh the	Wisconsin's Forestry Best
		harmful impacts that are certain to result from logging	Management Practices for
		in these vulnerable habitats."	Water Quality (BMPs).
			Potential impacts to water
			quality from proposed
			activities are addressed in the
			FEIS, Section 3.9.2.
			1 213, 300000 53.2.
			Thank you for your comment
			on wolfs.
32	3	Limit logging in or next to old growth habitat to ensure	In accordance with forest
33	3	long-term viability of forest interior species, such as red-	plan guidance, this has been
36	3	shouldered hawks, northern goshawk, and pine martins.	incorporated into the design
39	3	shouldered hawks, northern goshawk, and pine martins.	of all the action alternatives.
42	1, 5		The IDT reviewed the
43	3		harvests adjacent to the MA
45	1		8s before the DEIS was
46	3		written. Harvests were
48	3		changed to complement MA8
51	4		direction.
56	3		difection.
57	3		
62	3		
64	4		
65	3		
66	3		
68	2		
69	1, 4		

24	2 4 5	Co the heavens from the mineral from Amine 1:11.	Coothe EEIC Cootie 2 10 4
34	3, 4, 5	So the beavers keep the rivers from drying up while, at the same time, healthy vegetation keeps the rivers from flooding, and all this biological interaction helps maintain rich soil that better sequesters carbon — that stuff we want to get out of the atmosphere and back into the ground. In other words, by helping to maintain a healthy ecosystem, wolves are connected to climate change: without them, these landscapes would be more vulnerable to the effects of those big weather events we will increasingly experience as the planet warms. Beavers, despite being on the wolf's menu, also benefit when their predators are around. The healthy vegetation encouraged by the presence of wolves provides food and shelter to beavers. Beavers in turn go on to create dams that help keep rivers clean and lessen the effects of drought. Beaver activity also spreads a welcome mat for thronging biodiversity. Bugs, amphibians, fish, birds, and small mammals find the water around dams to be an ideal habitat.	See the FEIS, Section 3.10.4 for discussion of carbon and climate change. The continued regeneration of early succession species like aspen within the riparian area has resulted in providing ample supplies of the preferred food source for beaver. Beaver can adversely affect trout habitat by blocking migration, reducing shade through flooding, increasing water temperature, causing sedimentation of spawning areas and altering habitat, which causes increased competition from other fish species (USFS 2002). The Forest has over 1,200 miles of stream designated as trout water. Significant efforts have been made over the last two decades to restore the coldwater community, particularly to maintain free-flowing conditions. Part of this effort has been to reduce the amount of aspen next to trout streams to discourage beaver activity within those streams.
34 42 53	6a 2 1	Alt 2 could impact Wisconsin's tourism industry.	See Appendix E, subpart A above, response #22-6.
40 54 59	1 1 2	Balance timber and tourism.	
34 48	6b	"The USFS' preferred alternative for this project includes logging, road-building, mechanical treatments, and maintenance activities that could have negative, cumulative impacts on water resources, fragile plant and animal communities, and species of concern." Effects on water resources, fragile plants, and animals.	See FEIS Chapter 3, Sections 3.4, 3.6, and 3.9. Also see the BE posted on our website.
52	2	Assure no damage to water.	

35	2	"Additionally, a large tornado went through here just a few years ago, blowing down a wide swath of timber. I believe that event alone means we will be well stocked with early-succession forest type for decades to come in N.E. WI."	At first glance, it may appear so- until we look at scale and context. About 5,500 acres of young forest was regenerated on the CNNF because of the tornado. However, there are about 296,000 acres of upland forests on this district alone. Therefore, the tornado increased the amount of early successional forest by less than two percent. In order to meet the goals and objectives of our forest plan, we need to maintain a certain level of young forest in various locations <i>throughout</i> the district. This created our proposals in this project.
39	1	Long-term health of the ecosystem should be an overriding concern-not short-term economic gain.	We agree. This is why we are trying to implement our forest
42	1, 2	CNNF provides critical habitat for species, especially northern goshawk, red-shouldered hawk, and American marten. Project would have negative, cumulative on water resources, fragile plant and animal communities, and species of concern.	plan in this location. We agree that the CNNF provides critical habitat for many wildlife species. All TES and RFSS that have habitat and potential for occurrence in the project area were analyzed for this project in the BE. Direct, indirect, and cumulative effects were discussed for those species with habitat, potential for occurrence, and potential impact by proposed projects were analyzed within the BE and MIS/MIH. See FEIS, Section 3.9.3 for water resource impacts.
47	1	Keep the forest priceless.	Thank you for your comment.
51	5	"We cannot afford to lose these precious recyclers if we hope to stave off global warming."	See the FEIS, Section 3.10.4.
52	2	Minimize damage to forest and water.	Comment noted. See FEIS.
53	1	Commenter is against logging the area. They are	Thank you for your comment.
48	4	concerned about impacts on resources.	We understand and respect
50 51	1		your concern. However,
53	6		please understand that part of our mission is to manage this
54	1		landscape using commercial
62	4		timber harvest. We make

64	5		great efforts to do it in a way
68	1		that meets our objectives
			while trying to be responsive
			to public concerns and having
			the least impact possible.
		"Please consider the method that is least impact on this	See FEIS, Section 3.3.2 for
70	1	rich region. Roads and logging in is I[sic] mistake.	forest plan guidelines on road
		Occasionally we have those 100 and 500 year rains that	management. Also in the
		wash away man made construction. It's all downhill to	FEIS, Section 3.9.2 addresses
		the lake!"	major floods.

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